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Flexible Nano Micro Porous Insulation Panel Technical Data Sheet



Product Profile

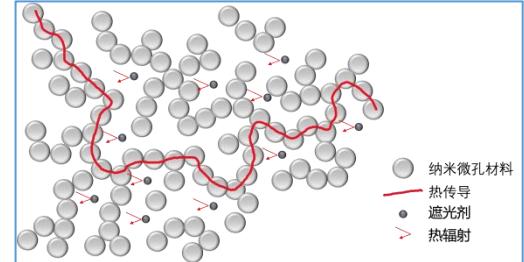
This series of nano insulation materials is flexible and foldable in roll form, suitable for thermal insulation of various curved and circular industrial kilns. It can withstand high temperatures up to 1000°C and has excellent flame retardancy. Meanwhile, the thermal conductivity has a low increase rate with rising temperature, and the shrinkage rate is low. It can be used for thermal protection of high-temperature pipelines and equipment, efficient thermal insulation of automotive exhaust systems, nuclear power facilities and pipelines, fuel cells, etc.

Thermal Insulation Principle

The nano micro porous insulation panel reduces heat transfer in three aspects:

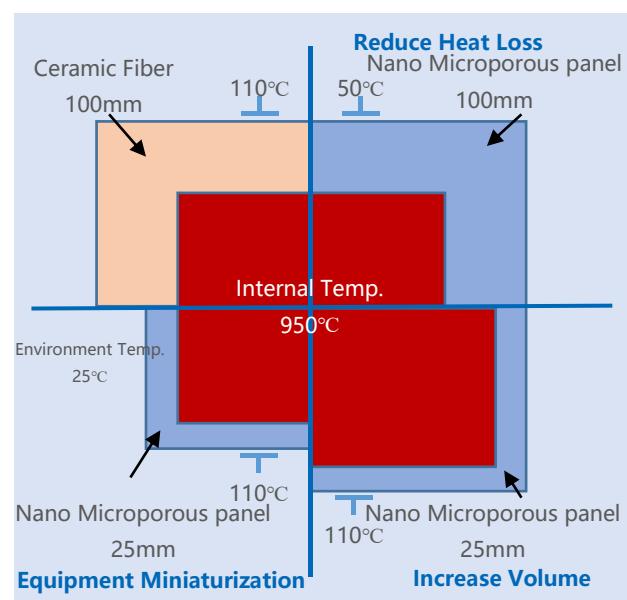
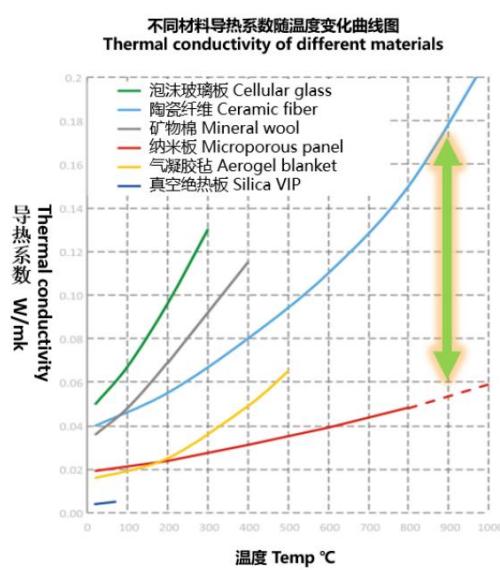
Due to the special structure of the raw materials of the product, heat conduction of the panel can only occur through the surface contact of tiny particles, which significantly increases the

conduction path and reduces heat conduction. Meanwhile, the movement of air molecules in the particle gaps is significantly reduced, providing almost no heat transfer by convection. The addition of opacifiers in the material can also block thermal radiation.



Product Features

- High-Efficiency Thermal Insulation: Under high-temperature conditions, the thermal insulation performance is 4 times better than that of conventional materials.
- Thin, Lightweight and High-Efficiency: Meeting the same thermal insulation requirements, it has a thinner insulation layer, effectively increasing usable space.
- Flexible and Foldable: Featuring a flexible structure, it can be wrapped and folded according to the application scenario.
- Structural Stability: Maintains a stable structure even at high temperatures, with little tendency to shrink or deform.
- Fire and High-Temperature Resistance: Non-combustible material, capable of withstanding high temperatures up to 1000°C.
- Environmental Friendliness: Green and pollution-free, while reducing energy consumption in high-temperature processes and lowering carbon emissions.



Technical Data

Service Temperature	950°C
Density	250Kg/m ³ -300Kg/m ³
Thermal Conductivity (200°C)	0.026W/(m.K)
Thermal Conductivity (400°C)	0.031W/(m.K)
Thermal Conductivity (600°C)	0.037W/(m.K)
Thermal Conductivity (800°C)	0.042W/(m.K)
Linear Shrinkage (850°C, 24h)	≤0.5%
Linear Shrinkage (950°C, 24h)	≤2.5%

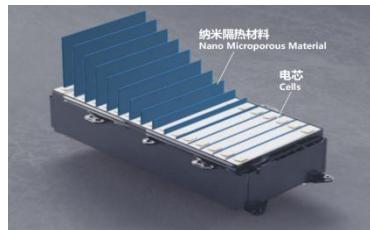
Remark

- Thermal conductivity is in accordance with the standard YB/T4130-2005.
- The test of linear shrinkage is in accordance with the standard GB/T5486-2008.
- Sizes can be customized according to customer requirements. For special needs, please contact us.

Dimensions and Tolerances

Length & Width	≤1000mm*600mm
Thickness	5-10mm
Length and Width Tolerances	±3mm
Thickness Tolerance	±1mm
Packaging Appearance	Fiber Cloth
Package & Delivery	Pallet + Wrapping Film

Application Fields



Battery Cell | Nuclear Station | Metallurgy | Ceramics | Cement | Kiln
Petrochemicals | Building Fire Protection | Industrial Thermal Insulation
